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September 5, 2004

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Re: HJR153 - Underground Placement of Utility Distribution Lines

Gentlemen,

This letter is in response to your invitation to submit comments on the feasibility of the underground placement of utilities. With respect to electricity, my comments deal only with distribution as opposed to transmission.

Benefits associated with placing utility distribution lines under ground:

1. **Increased reliability.** Every windstorm, ice storm, hurricane, tornado, accident involving a utility pole, etc. disrupts power distribution to the public. Sometimes there are literally over a million people without power, and this is so even as I write while hurricane Frances devastates Florida.. The cost of widespread power outages to the public is virtually incalculable when one thinks of the businesses that must close, the machinery that remains idle, the computers that go dark, the food that rots in refrigerators, the people who sit alone in the dark and in the cold, and the traffic signals that stop working.

Surely, utility lines placed underground in conduit and in accordance with approved engineering standards are less vulnerable to weather related damage than lines strung overhead on poles. An underground distribution system may not be perfect but it has got to be vastly superior to an overhead system. My experience has been that in new subdivisions where utility lines are routinely placed underground, outages are almost invariably caused by failure of overhead lines running into the subdivision. Most of Western Europe employs underground wiring to a very large extent compared with the United States, including the Netherlands, where lines are routinely run underwater, and Italy, where they must drill through solid rock to place their lines, but outages are generally associated with failures in generation rather than distribution. If Virginia's power distribution companies continue to say, as I have heard them say in the past, that underground utilities are no more reliable than overhead utilities, then to me that is an admission of incompetence of such an extent that they ought not to be permitted to retain their certificates of public convenience and necessity.

2. **Public Safety.** After every storm of any magnitude there are reports of live electric utility wires down in residential neighborhoods. Sometimes these wires cause injury, and sometimes death. There are

frequently injuries to distribution line workers who are required to work in the most inclement weather high up in their cherry pickers re-stringing wire and replacing transformers. Cars not infrequently run into utility poles causing injury to the occupants of the cars and often disruption of power. And while it may not be the fault of the pole in getting hit, when one considers the number of such poles in the Commonwealth it is clear they constitute a public hazard that could and should be removed.

Buried utility lines are far safer than overhead ones; both the utilities and the cities and counties where lines are buried should be required to maintain utility location records which should be made available to contractors digging or grading in the area. With the wide spread use of GPS, maintenance and updating of such records should be no great burden.

3. Aesthetics. It is striking to see the difference in cities and towns in Virginia where overhead utilities have been placed underground as part of an historic redevelopment program, and then to walk a few blocks off the main street or Court Square to find a tangled web of wires, poles and other unidentifiable equipment running through holes that have been cut in trees or above trees that have had their tops cut off. Residential areas are at times virtually brutalized by the combination of wires and butchered trees which, unfortunately, many people have become so accustomed to over the years that they no longer notice until they come into an area where utility lines have been buried.

Virginia is justifiably proud of its heritage and its large number of historic sites, towns and cities. Much is done and spent to promote tourism and to restore monuments, buildings, parks and the like. Boards of Architectural Review are established with supervision over historic districts to determine that only appropriate materials are used in restoration, renovation and additions, and that only paints of a certain color are used. In making improvements, consideration must be given to the street scape and the opinions of the neighbors. These burdens are placed on owners of small single family residences, but electric distribution companies are permitted to upgrade their utility lines on the same street, remove or deform trees, and otherwise "uglify" the area designated as "historic." Does this not strike of hypocrisy?

Negative Aspects Associated With Under Grounding Utilities.

I do not perceive any negative aspects of requiring utilities to place their lines under ground. True, there is an initial capital investment, but this can be amortized over a number of years and should partly be made up for by reduced maintenance cost. It is not believable that maintenance for an underground distribution system is not less than for an overhead system exposed to the weather. The distribution companies estimates for cost per block for under grounding are extreme and ought to be carefully checked by other capable contractors and engineers not associated with the electrical industry.

Criteria For Determining Whether Certain Utility Lines Should Be Placed Underground.

Options For Funding The Cost Of Under grounding Utility Lines.

Whether State Law Or Local Ordinance Should Be Employed As The Vehicle To Carry Out Public Policy.

I cannot separate various criteria which systems engineers might develop to determine when and which distribution lines ought to be buried. A manager for Dominion Power has told me that they have such criteria, but did not explain what the criteria were or by whom or how they were developed. A project of this scale will take at least fifty or more years to complete, and it does not seem wise to me to set up criteria which might be reasonable at the present for electrical distribution, but have no relevance to telecommunications or cable, and which might, in a few years, be obsolete for electrical distribution.

Where an under grounding project is undertaken in a particular location, all utilities should be buried at the same time. There will be only one ditch on a block and vaults for transformers where necessary can be built at the same time as the ditch is opened..

It is my opinion that the General Assembly should pass enabling legislation authorizing the cities, towns and counties in the Commonwealth to adopt an underground utility ordinance under regulations established by the SCC. The governing bodies of the localities would enact their ordinances which could require all new and replacement lines to be buried and existing lines buried over a period of time. Pursuant to their ordinances localities would develop a plan or plans for under grounding either the entire locality or a particular neighborhood, this with the thought that these governing bodies have a better understanding of what is best for their community than the distribution companies. The cost for under grounding in a community in a particular year would be limited to a percentage of revenues derived from that community in that year, but if no work was done in that year the percentage of revenues designated for under grounding could be carried over for future years. In short, the utilities would be required to set up a reserve for under grounding in each community which would be used as required by the community's plan.

A community's plan, for under grounding a discrete area would be submitted to the district managers of the utilities affected and if agreed upon would be treated as a contract between the utilities and the locality. If one or more of the utilities did not agree there would be an administrative hearing before SCC staff and appeal to the Commission. Jurisdiction over disputes involving the enabling legislation and the ordinances would be under the SCC. The common law courts should be kept out of it as they are already overworked, and a specialized staff will be far more efficient in resolving technical issues. While there may be litigation involving the enabling legislation and the ordinances initially it will be settled law in a couple of years and projects should move along at a rate commensurate with the funds available.

The cost for the project would be borne by the utilities including the cost of connection to the buildings being served from the street. To attempt to determine whether a particular customer has benefitted directly or indirectly, whether one customer has benefitted more than another will tend to make the whole proposal fall into petty squabbling. The entire Commonwealth will benefit from the under grounding of utilities just as we all benefit from highways, state parks and other physical assets.

The cost should be shared between the utilities on a formula developed by the SCC and based on a fair allocation of the cost and benefit to each utility involved, and such formula should be applied statewide and for all projects.

I think it unlikely that any of the utilities will suffer gravely from the legislation I have proposed as the work will take place over a very long period of time, they will have reduced system maintenance cost and, as always, they will certainly find a way to recover their cost.

Epilogue. There is a great deal of constitutional, statutory and case history involving the regulation of utilities in the use of streets, particularly in municipalities. Your invitation to comment does not seem to request a lengthily legal discussion, but I am including several pages from Howard, *Commentaries on the Constitution of Virginia*, University of Virginia Press, Charlottesville, 1974, Vol. II, Article VII, Section 8 which I think is quite germane to this issue. Footnote 10 in the cited section, discussing the ability of utilities to regulate the use of their streets, notes in part:

Another delegate, arguing against giving municipalities the power to exclude utilities entirely, nevertheless believed they should have "full and absolute power" to regulate

the manner of using the streets. "I want," he said, "to leave to every city the right to compel these companies to put their wires underground." . . . (Hunton).

Hunton was Eppa Hunton, Jr., delegate to the Constitutional Convention of 1901-02, one of the most prominent members of the Bar in the Commonwealth, and long time counsel to Virginia Power, the predecessor of Dominion Power.

I remain, yours truly,

Clayton Smith